

Title (en)

OB-fold used as scaffold for engineering new specific binders

Title (de)

Als Gerüst verwendeter OB-Fold zur Entwicklung neuer spezifischer Bindemittel

Title (fr)

OB-fold utilisé en tant que base pour l'ingénierie de nouveaux liants spécifiques

Publication

**EP 1930342 A1 20080611 (EN)**

Application

**EP 06291869 A 20061204**

Priority

EP 06291869 A 20061204

Abstract (en)

The present invention pertains to the field of protein engineering, and provides means for obtaining stable molecules that specifically bind to a target selected amongst a large variety of ligands families. In particular, the present invention provides methods for obtaining a molecule specifically binding to a target of interest, through a combinatorial mutation/selection approach with an OB-fold protein as a starting molecule. In particular, the target of interest can be of a different chemical nature form that of the native target of the OB-fold protein used as the starting molecule.

IPC 8 full level

**C07K 14/195** (2006.01); **C12N 15/10** (2006.01)

CPC (source: EP US)

**C07K 14/195** (2013.01 - EP US); **C07K 16/1228** (2013.01 - EP US); **C07K 16/1232** (2013.01 - US); **C07K 16/4283** (2013.01 - EP US); **C12N 15/1041** (2013.01 - EP US); **C40B 40/10** (2013.01 - US); **C07K 2318/20** (2013.01 - EP US); **C40B 30/04** (2013.01 - US)

Citation (applicant)

WO 0072742 A2 20001207 - SAKSELA KALLE [FI], et al

Citation (search report)

- [Y] WO 0232925 A2 20020425 - PHYLOS INC [US], et al
- [A] WO 2006013468 A2 20060209 - BIONEER AS [DK], et al
- [X] PETERS WILLIAM B ET AL: "Effect of mutation of the Sac7d intercalating residues on the temperature dependence of DNA distortion and binding thermodynamics", BIOCHEMISTRY, vol. 44, no. 12, March 2005 (2005-03-01), pages 4794 - 4804, XP002432184, ISSN: 0006-2960
- [X] MOU TUNG-CHUNG ET AL: "Binding and reversible denaturation of double-stranded DNA by Ff gene 5 protein.", BIOPOLYMERS, vol. 70, no. 4, December 2003 (2003-12-01), pages 637 - 648, XP002432185, ISSN: 0006-3525
- [DY] BINZ H K ET AL: "Engineering novel binding proteins from nonimmunoglobulin domains", NATURE BIOTECHNOLOGY, NATURE PUBLISHING GROUP, NEW YORK, NY, US, vol. 23, no. 10, October 2005 (2005-10-01), pages 1257 - 1268, XP002381839, ISSN: 1087-0156
- [DY] GAO Y-G ET AL: "THE CRYSTAL STRUCTURE OF THE HYPERTHERMOPHILE CHROMOSOMAL PROTEIN SSO7D BOUND TO DNA", NATURE STRUCTURAL BIOLOGY, NEW YORK, NY, US, vol. 5, no. 9, 1998, pages 782 - 786, XP008012099, ISSN: 1072-8368
- [DY] ARCUS VICKERY: "OB-fold domains: a snapshot of the evolution of sequence, structure and function.", CURRENT OPINION IN STRUCTURAL BIOLOGY DEC 2002, vol. 12, no. 6, December 2002 (2002-12-01), pages 794 - 801, XP002432186, ISSN: 0959-440X
- [Y] DREVELLE ANTOINE ET AL: "Structures of in vitro evolved binding sites on neocarzinostatin scaffold reveal unanticipated evolutionary pathways", JOURNAL OF MOLECULAR BIOLOGY, vol. 358, no. 2, April 2006 (2006-04-01), pages 455 - 471, XP005392507, ISSN: 0022-2836
- [A] MIRNY L A ET AL: "Universally conserved positions in protein folds: reading evolutionary signals about stability, folding kinetics and function", JOURNAL OF MOLECULAR BIOLOGY, LONDON, GB, vol. 291, no. 1, 6 September 1999 (1999-09-06), pages 177 - 196, XP004461969, ISSN: 0022-2836

Cited by

WO2012150314A1; WO2020074402A1; WO2021180823A1; WO2022171852A1; FR2974816A1; CN111467477A; EP3632924A1; EP3878858A1; EP4043481A1; US9181543B2

Designated contracting state (EPC)

AT BE BG CH CY CZ DE DK EE ES FI FR GB GR HU IE IS IT LI LT LU LV MC NL PL PT RO SE SI SK TR

Designated extension state (EPC)

AL BA HR MK RS

DOCDB simple family (publication)

**EP 1930342 A1 20080611; EP 1930342 B1 20120125;** AT E542830 T1 20120215; AU 2007330409 A1 20080612; AU 2007330409 B2 20130418; CA 2671553 A1 20080612; CA 2671553 C 20170905; CN 101652386 A 20100217; CN 101652386 B 20130320; CN 103145812 A 20130612; DK 2099817 T3 20150518; EP 2099817 A2 20090916; EP 2099817 B1 20150211; EP 2570424 A1 20130320; EP 2570424 B1 20160928; ES 2536509 T3 20150526; ES 2602782 T3 20170222; HK 1117548 A1 20090116; HK 1141304 A1 20101105; IL 199057 A 20160229; JP 2010511691 A 20100415; JP 2014169304 A 20140918; JP 2018035139 A 20180308; JP 6253496 B2 20171227; JP 6684761 B2 20200422; MX 2009005949 A 20090630; US 10584330 B2 20200310; US 11434585 B2 20220906; US 2010145008 A1 20100610; US 2016010083 A1 20160114; US 2017166887 A1 20170615; US 2020181601 A1 20200611; US 9422548 B2 20160823; WO 2008068637 A2 20080612; WO 2008068637 A3 20081030

DOCDB simple family (application)

**EP 06291869 A 20061204;** AT 06291869 T 20061204; AU 2007330409 A 20071204; CA 2671553 A 20071204; CN 200780050902 A 20071204; CN 201310058100 A 20071204; DK 07872052 T 20071204; EP 07872052 A 20071204; EP 12156817 A 20071204; ES 07872052 T 20071204; ES 12156817 T 20071204; HK 08111475 A 20081016; HK 10107761 A 20100813; IB 2007004388 W 20071204; IL 19905709 A 20090601; JP 2009539833 A 20071204; JP 2014090319 A 20140424; JP 2017145556 A 20170727; MX 2009005949 A 20071204; US 201514824034 A 20150811; US 201615266676 A 20160915; US 202016752140 A 20200124; US 51764307 A 20071204